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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/724,267	11/26/2003	Leo Wenstrup	1-16405	1251

7590 01/12/2006

Attention: Mark A. Hixon, Esq.
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EXAMINER

LE, DAVID D

ART UNIT PAPER NUMBER

3681

DATE MAILED: 01/12/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/724,267	WENSTRUP ET AL.	
	Examiner	Art Unit	
	David D. Le	3681	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 31 October 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 May 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This is the third Office action on the merits of Application No. 10/724,267, filed 26 November 2003. Claims 1-3 are pending.

Documents

2. The following documents have been received and filed as part of the patent application:
- Declaration and Power of Attorney, received on 05/06/04
 - Information Disclosure Statement, received on 03/18/04
 - Information Disclosure Statement, received on 05/20/05
 - Replacement Drawings, received on 05/20/05

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. **Claims 1-3 are rejected under 35 U.S.C. 103(a) as being unpatentable over U. S. Patent No. 6,705,965 to Sullivan in view of U. S. Patent No. 5,560,687 to Hagelthorn.**

Claims 1-3:

Sullivan (i.e., Figs. 1 and 3; column 2, line 30 – column 5, line 40) discloses a differential carrier assembly for a drive axle comprising:

- A differential carrier (i.e., Fig. 3, being the differential carrier housing 106 and a portion of the second bearing cage 120, which contacts the differential carrier housing 106) having a set of threads (i.e., Fig. 3, being the set of threads that is shown at the vicinity of reference number 124) on an interior surface;
- A substantially horizontally oriented input bearing adjuster (i.e., Fig. 3, element 116) having a complementary set of threads on an exterior surface, said input bearing adjuster located within said differential carrier;
- An input bearing system of a differential (i.e., Fig. 3, element 152) comprising an outer race located radially inward from, and in contact with said input bearing adjuster (i.e., Fig. 3, element 116) and an inner race in contact with an input shaft (i.e., Fig. 3, element 104) and an input bearing (i.e., Fig. 3, element 112);
- A locking mechanism (i.e., Fig. 3, being the combination of elements 114 and 128 or column 4, lines 15-17) to selectively secure said input bearing adjuster to said differential carrier;
- Wherein said threads of said bearing adjuster are engaged with said threads of said differential carrier to adjust the preload or the endplay of said input bearing (column 3, lines 55-60);
- Wherein said locking mechanism comprises a screw (i.e., Fig. 3, element 114); and
- Wherein no endcap is attached for the differential carrier assembly (Fig. 3 does not appear to show an endcap).

Sullivan lacks a substantially vertically oriented locking mechanism extending substantially perpendicularly through said differential carrier to selectively secure said input bearing adjuster to said differential carrier.

Hagelthorn (i.e., Figs. 2 and 9-10; column 4, lines 36-65), on the other hand, teaches an axle assembly comprising a substantially vertically oriented locking mechanism (i.e., Fig. 2, element 13) extending substantially perpendicularly through a threaded lock ring (12) to selectively secure the bearing adjuster assembly, as shown in Fig. 2.

It would have been obvious to one of ordinary skill in the art at the time this invention was made to modify *Sullivan* such that the locking mechanism of *Sullivan*, as defined above, is a substantially vertically oriented locking mechanism, which extends substantially perpendicularly through the differential carrier to selectively secure the input bearing adjuster to the differential carrier, in view of *Hagelthorn*, in order to guarantee the advantages of precise adjustment without incurring excessive cost for precision parts (i.e., *Hagelthorn*, column 3, lines 6-8).

Response to Arguments

5. Applicant's arguments with respect to claims 1-3 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to David D. Le whose telephone number is 571-272-7092. The examiner can normally be reached on Mon-Fri (0700-1530).

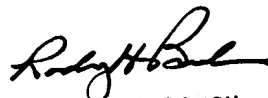
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Charles A. Marmor can be reached on 571-272-7095. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 3681

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



ddl



RODNEY H. BONCK
PRIMARY EXAMINER
ART UNIT 3681